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EXAMINER	
RICHER, AARON M	

ART UNIT	PAPER NUMBER
2628	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/798,206	MERCER, JEREMY	
	Examiner	Art Unit	
	AARON M. RICHER	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 July 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,7-12,19,20 and 22-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,7-12,19,20 and 22-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed July 8, 2009 have been fully considered but they are not persuasive.

2. As to claims 1 and 19, applicant argues that Maulsby teaches away from changing an object being associated with one rule/property to another rule/property by dragging between jars. Applicant cites col. 34, line 55-col. 35, line 13 of the reference showing that automatic disassociation/association of rules/properties does not occur. However, rules/properties are not the only characteristics with which an object is associated in Maulsby. Rather, when dragging from one jar to another, an object becomes part of a different "dynamic class" (see col. 38, lines 19-29 in particular). The dynamic class is not mutually exclusive of other classes, but is mutually exclusive of class exclusions. An object can be part of both "tasty fish" and "freshwater fish" as in fig. 25, but it cannot be part of both "tasty fish" and "non-tasty fish". This is explained in col. 36, lines 41-56 which state that in the case of contradictions, an item will be placed as excluded rather than included. It is not possible to have an object in both excluded and included regions. This is similar to the claimed invention in that characteristics can be mutually exclusive (as in claim 1) or not mutually exclusive (as in claim 12). It is further noted that the cited portions of both Sprenger and Bauernschmidt show mutually exclusive characteristics (the regions of Sprenger on a per-level basis, or the "weeks" of Bauernschmidt), and non-mutually exclusive characteristics (regions in Sprenger can be

associated with multiple auras on different levels, and a part failure in Bauernschmidt may belong to both a week and a month).

Claim Objections

3. Claims 1 and 19 are objected to because of the following informalities: Claim 1 contains a grammatically incorrect phrase, at lines 32-34: "when the shape of the second design element *being* dragged from the second affinity region and hovered over the first affinity regions by a user" (emphasis added). Claim 19 recites a similar limitation at lines 28-29. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-4, 7-12, 19, 20, and 22-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sprenger. ("H-BLOB: A Hierarchical Visual Clustering Method Using Implicit Surfaces") in view of Bauernschmidt (U.S. Publication 2004/0168115) and further in view of Maulsby (U.S. Patent 5,710,894).

6. Regarding claim 1, Sprenger teaches using shapes to visually represent design elements on a visual design surface, wherein the design elements are entities of a process or system being designed by a user and the design elements include a first design element and a second design element. (p. 3 Section 2.2, p. 3-p.4 Section 2.3). It

should be noted that Sprenger teaches a plurality of objects (design elements), which may take the shape of a dot, icon, glyph, etc.

Furthermore Sprenger teaches defining characteristics for the design elements such that each of the design elements is associated with at least one of the characteristics, wherein the characteristic associated with the first design element is different than the characteristic associated with the second design element and associating the characteristics with auras, respectively, each of the auras being a visually perceptible element on the visual design surface that is distinguishable from the other auras, wherein different ones of the characteristics are associated with different auras, and wherein the characteristics are mutually exclusive. (p. 4 Section 3.1-p. 7 Section 4.2). It should be noted that Sprenger teaches objects may be clustered into blobs (auras) based on distance between their centroids. For example, in Fig. 7, level 2 objects A and BC form a cluster sharing the similar a similar attribute of distance.

Furthermore Sprenger teaches displaying for each design element on the visual design surface with the aura associated with the characteristic associated with that design element, wherein the shapes of the first and second design elements are displayed with different auras. (p. 4 Section 3.1-p. 7 Section 4.2, Fig. 12-13).

While Sprenger does teach shapes in proximity to each other (sharing a particular characteristic) may be clustered in an aura and subsequently auras may be clustered into affinity regions (larger auras sharing similar characteristic), Sprenger does not explicitly teach automatically moving the shapes of design elements sharing a particular one of the characteristics into an affinity region for the particular characteristic,

such that the moved shapes are located in proximity to each other on the visual design surface. Further, since Sprenger clusters design elements based on the distance to other design elements, Sprenger does not teach a method wherein the determination of a characteristic associated with each design element is independent of other elements.

Bauernschmidt, however, discloses determining a characteristic of an element based solely on the properties of the element itself, rather than the properties or surrounding elements (see fig. 3 and fig. 4; p. 8, sections 0048-0051; elements are grouped by the data they correspond to). Bauernschmidt further discloses moving the shapes for elements sharing characteristics into an affinity region, wherein a first design element is associated with a particular characteristic and located in the affinity region (see fig. 3 and fig. 4; p. 8, sections 0048-0051; a user can create reports which move the various cells representing data into different affinity regions). The motivation for this manipulation of independent elements is to allow user customization of data reports that show nested or hierarchical relationships (p. 8, section 0046). It would have been obvious to one skilled in the art to modify Sprenger to determine characteristics independently and move independently characterized shapes into different affinity regions in order to facilitate various user-customized reports that show data relationships as taught by Bauernschmidt.

Neither Sprenger nor Bauernschmidt discloses changing the characteristic of a second design element to be the same as a first design element in response to a user dragging the second element over an affinity region that includes the first element. Maulsby, however, discloses moving a design element from one group to another with

other design elements in it, thus changing that element's characteristic (col. 38, lines 7-51). This is accomplished by dragging the element from one area into a second area. The motivation for using a dragging operation in this manner is to solve the problem of prior art methods in which it was not easy to re-categorize objects (col. 3, lines 34-44). It would have been obvious to one skilled in the art to modify Sprenger and Bauernschmidt to allow a user to drag an element over an affinity region to change its characteristic in order to re-categorize objects in a more user-friendly way as taught by Maulsby.

7. Regarding claims 2 and 3, Sprenger teaches a method wherein the aura comprises a color coded area surrounding the shape and wherein the aura comprises a color coded area adjacent to at least a portion of the shape. (p. 3 Section 2.2, p. 3-p.4 Section 2.3, Figs. 1-7)

8. Regarding claim 4, Sprenger teaches merging the auras with the shapes of design elements in the affinity region for the particular characteristic. (p. 4 Section 3.1 Fig. 7)

9. Regarding claim 7, see the rejection to claim 1. Further, claim 7 recites providing an affinity region label such that one can change the label to cause design elements associated with a particular characteristic to be associated with another characteristic. Maulsby discloses such a label (col. 35, lines 45-52) as an identifier or jar name that can be edited. It would appear that one could change the label name from for example, "tasty fish" to "edible fish" and thus change the characteristic that the design elements

are associated with. Motivation for the addition of this feature is similar to that explained in the rejection of claim 1.

10. Regarding claim 8, Sprenger teaches characteristics defined include a use for the design element. (p. 4 Section 3.1-p. 7 Section 4.2, Fig. 12-13). It should be noted the objects taught by Sprenger may be a hit list from an intranet document query and thus, the characteristic for clustering is the proximity of one document in the hit list to another document in the hit list. This reads on the broad definition of a "use" for the element because a document's similarity to another document shows, among other things, similarity in application. For instance, one reference can be "used" similarly to another reference if they are closely related.

11. Regarding claim 9, Sprenger does not explicitly teach characteristics defined include identification of a namespace. Nonetheless Sprenger teaches an application of document retrieval visualization identifying the clustering of documents. Examiner takes official notice that namespaces are abstract containers or environments created to hold a logical grouping of unique identifiers. It would be obvious to one of ordinary skill in the art at the time the invention was made to cluster objects by namespace into the system of Sprenger because namespaces provide a mechanism for grouping logically related identifiers, thus allowing the user to visually distinguish the modularity of the system. Since the Sprenger reference generally deals with grouping logically related identifiers (p. 2, see discussion of "analytical clustering" of a hierarchical group; this involves taking representations, or identifiers, of data and grouping them in a hierarchy), one skilled in the art would find this to be a logical substitution.

12. Regarding claim 10, Sprenger does not explicitly teach characteristics defined include identification of an application layer. Nonetheless Sprenger teaches an application of document retrieval visualization identifying the clustering of documents. Examiner takes official notice that application layers provide services for an application program to ensure that effective communication with another application program in a network is possible. It would be obvious to one of ordinary skill in the art at the time the invention was made to cluster objects by application layer because the user can better visualize high-level set-up services for a particular application program.

13. Regarding claims 11 and 22, Sprenger teaches characteristics including identification of an importance level (comprising one of a particular importance level for the corresponding design element). It should be noted that Sprenger teaches merging clusters based on minimum distance between pairs of objects belonging to different clusters. Thus, the merging signifies a characteristic of "importance" of the relationship between the pairs of objects for each level. (Fig. 7)

14. Regarding claim 12, Sprenger teaches associating a particular design element with non-mutually exclusive characteristics and displaying the shape with associated auras of the characteristics (p. 4 Section 3.1-p. 7 Section 4.2, Fig. 12-13). For example, object in aura B may be associated with objects in auras C (level I) and A (level II) and also associated with objects in the DE aura (level III). An example of this type of multiple association of a particular object is seen in Fig. 13 for 5 or 10 or 20 clusters.

15. Claim 19 is similar in scope to claim 1, although it does not include independent design elements. Further, Claim 19 adds the recitation of a computer readable medium

containing computer executable instructions for performing the steps of claim 1. Examiner takes official notice that a computer readable medium containing computer executable instructions is often times utilized for developing multidimensional data visualization. It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow users to utilize a computer storing computer executable instructions in the system of Sprenger because providing the capability of performing complex computational tasks at high-speed can be realized.

16. Regarding claim 20, Sprenger teaches displaying the aura around the design element shape. (p. 3 Section 2.2, p. 3-p.4 Section 2.3, Figs. 1-7).

17. Regarding claim 23, see the rejection to claim 1, specifically the discussion of independent determination of design element characteristics.

18. Regarding claims 24 and 25, Sprenger discloses that design elements can be items such as retrieved documents, but does not specifically teach that the elements can be business processes, flowchart steps, hosting platforms, or hardware components. Bauernschmidt, however, uses hierarchical views to visualize elements that are, or relate to, hardware components (see fig. 4; a part of a hard drive, part 124, and data relating to it, is shown in the graph). The motivation for visualizing hardware components or hardware component data in this way is that a user can more easily identify data with this type of visualization (p. 1, section 0007). It would have been obvious to one skilled in the art to modify Sprenger to use hierarchical grouped views of elements that are hardware components in order to more easily visualize these components and data relating to them as taught by Bauernschmidt.

19. Regarding claims 26 and 27, neither Sprenger nor Bauernschmidt discloses that the design elements are business processes or flowchart steps corresponding to a process being designed by a user. Maulsby, however, discloses that the design elements correspond to a program process that is being designed by a user (fig. 4e, 4d; col. 15, lines 18-37). Such a visualization of program steps can read on the broad definition of a flowchart and could also correspond to steps in a business process, depending on what the program acheived. The motivation for visualization a process in this way is to allow a user to understand a program without specialized knowledge (col. 15, lines 34-37). It would have been obvious to one skilled in the art to modify Sprenger and Bauernschmidt to visualize flowchart steps or business processes in order to help someone comprehend a program without specialized knowledge as taught by Maulsby.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AARON M. RICHER whose telephone number is (571)272-7790. The examiner can normally be reached on weekdays from 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aaron M Richer/
Examiner, Art Unit 2628
9/27/09